

REMARKS

This Preliminary Amendment accompanies a continuation application of U.S. Ser. No. 09/753,894. In the present application, claims 1, 14, 16 and 17 have been amended, and claim 18 has been added. Claims 1-18 are presented for consideration by the Examiner. The present Remarks are in response to the Official Action mailed October 6, 2003 in the parent case, in which the Examiner rejected all the claims. The present continuation application is being filed with claims from the parent; those claims are amended in this paper.

The Present Application

The present application is directed to a method and apparatus for transmitting dedicated message information (such as a phone conversation) and simulcast message information (such as sports scores to a large number of subscribers) using a cellular transmission infrastructure. The invention permits simulcasting services and dedicated transmission services to be offered using the same wireless network. The technique conserves bandwidth as compared to existing cellular telephone systems that offer information services. In those existing systems, information messages are transmitted to a large number of individuals in separate, dedicated messages (see present specification, p. 3, lines 7-25). Using the system of the present invention, those messages can instead be simulcast in a single message.

The technique constructs frames that includes both simulcast message information and dedicated message information. The relative size and location of the time slots for those messages are established by control information at the beginning of the frames.

For example, amended claim 1 of the present application is directed to a method for use in a time division multiple access wireless communication system of simulcasting information and transmitting dedicated message information from a plurality of proximately located base stations forming a cellular pattern over the same wireless frequency channel. Frames are constructed for transmission by the plurality of base stations comprising control information, simulcast message information and dedicated message information within predetermined time slots of the frames. The simulcast message information and the dedicated message information are allocated to time slots of the same frame predetermined by the control information of the frame.

Thus, the frames constructed in the method of claim 1 contain two types of message information: simulcast and dedicated. In addition, the frames contain control information. Each type of information is placed in predetermined time slots

Amended claim 2 further requires that the control information fills time slots at the beginning of the frame, and that the control information be varied between predetermined time slots within the frames such that immediately proximate base stations transmit control information in different predetermined time slots.

The control information is therefore not simulcast, but is instead offset in time so that immediately proximate base stations do not transmit control information in the same time slot.

The Examiner has rejected claims 1-4, 10-12, 14 and 15 under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,485,463 to Godoroja et al. ("Godoroja "), has rejected claims 6 and 8 under 35 U.S.C. § 103(a) as unpatentable over Godoroja in view of U.S. Patent No. 6,535,552 to Pessoa ("Pessoa"), and has rejected claims 9, 13, 16 and 17 under 35 U.S.C. §

103(a) as unpatentable over Godoroja in view of U.S. Patent Publication No. US2002/0090042 by Heinonen et al. (“Heinonen”).

The Godoroja Patent

Godoroja discloses a system for transmitting multiple, individual paging messages to individual subscribers. As shown in FIG. 6, an example data sequence contains a simulcast slot 100 and three slots 110, 112, 114 containing message data. As noted by the examiner, the simulcast slot 100 comprises control information (items 104, 106, 108).

Information from the simulcast slot is used by the paging devices to determine whether a message is waiting and, if so, in which time slot it will be delivered (Godoroja, col. 6, line 62 – col. 7, line 39). The message is then delivered in one of the time slots 110, 112, 114 (col. 7, lines 40-56). The message is delivered in the assigned time slot by the base station in the paging unit’s cell. Base stations in adjoining cells with overlapping radio frequency coverage do not transmit at the same time (col. 4, lines 53-60). The messages in the time slots 110, 112, 114 are therefore NOT simulcast, but are instead transmitted by a single base station in an assigned time slot.

Discussion

Claim 1, 16 and 17 and Their Dependent Claims

Claims 1, 16 and 17 have been amended to make clear that the simulcast information contained in the frames is message information. The Examiner has rejected claim 1 as

anticipated by Godoroja . Applicant submits that Godoroja does not anticipate amended claim 1 because Godoroja does not teach all limitations of that claim.

Specifically, Godoroja does not teach “simulcast message information” as required by amended claims 1, 16 and 17. Instead, only two types of information are placed in the frames: the simulcast information placed in slot 100, which is control information (NOT message information), and the message information placed in slots 110, 112, 114, which is specifically taught by Godoroja NOT to be simulcast (Godoroja, col. 4, lines 53-60). Nowhere in Godoroja is taught placing simulcast message information in the frame . In sharp contrast, the inventors of the present application recognized the advantages of simulcasting mass-consumed message information in a cellular network instead of the inefficient use of dedicated channels, as is done today (specification, p. 3, lines 7-25; p.4, lines 12-18)

For that reason, Applicant respectfully submits that the limitations of amended claims 1, 16 and 17 are neither taught nor suggested by the art of record, and that claims 1, 16 and 17 are therefore in condition for allowance. Applicants further submit that claims 2-13 and 18, which depend on claim 1, are patentable for at least the same reason.

Claims 2 and 14

Applicants respectfully submit that claim 2 and amended claim 14 are patentable for the additional reason that Godoroja does not teach control information meeting both of the following two limitations:

1. The control information fills time slots at the beginning of the frame, and

2. The control information is in predetermined time slots within the frames such that immediately proximate base stations transmit control information in different predetermined time slots.

The Examiner has identified the information represented by elements 117, 118 of FIG. 6 as being control information transmitted in different time slots. That information, however, does not fill time slots at the beginning of the frame, as also required by claims 2 and 14. On the other hand, the information represented by elements 104, 106, 108 of FIG. 6, also identified by the Examiner as control information, is simulcast and therefore does not meet the second limitation. Godoroja does not teach any control information that both resides “at the beginning of the frame” and is “varied between predetermined time slots within the frames such that immediately proximate base stations transmit control information in different predetermined time slots.”

Claim 18

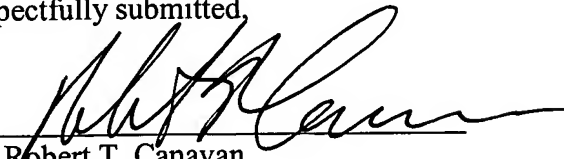
New claim 18 requires that the three types of information in claim 1 (control information, simulcast message information and dedicated message information) are in separate time slots of the frame. Godoroja does not teach placing three types of information in separate time slots. Instead, Godojora teaches placing simulcast information (not simulcast message information) and control information in the same slot. For that additional reason, applicant submits that claim 18 is in condition for allowance.

Conclusion

Applicants therefore respectfully assert that claims 1-18 are now in condition for allowance, and earnestly request that the Examiner issue a Notice of Allowance.

Should the Examiner have any questions regarding the present case, the Examiner should not hesitate in contacting the undersigned at the number provided below.

Respectfully submitted,

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Date: 2/6/2004